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ABSTRACT

When Spielberger's State-Trait Anxiety Scale was administered to 26 healthy and 26 chronically ill children, it was found that the chronically ill were significantly more anxious than the healthy. Results also suggested that the question of sex differences in children's emotional response to illness deserves further investigation in studies involving large samples of subjects at several developmental levels and focusing on the identification of mediating variables. For one such variable (capacity for fantasy) health status differences but no sex differences were found. An exploratory study of another potentially important mediating variable compared conceptions of the body and illness among hospitalized and healthy children. When data obtained in a body drawing task were inspected for number of body systems or parts acknowledged, no sex differences were found. However, prepubescent and pubescent girls participating in the study did not generally acknowledge in their drawings the existence of a human reproductive system. That almost none of the girls studied displayed any knowledge of human reproductive systems was a finding also thought deserving of further study. (RH)

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Health, Health Beliefs and Body Image in School-Aged Girls

by

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For those of us interested in both the health of children and in the psychology of women, it is natural to wonder how the special issues involved in growing up female relate to the success with which girl children remain healthy and cope with ill health when it occurs. There is surprisingly little evidence that specifically relates to this question in pre-pubertal girls, but some trends are beginning to emerge in the literature that does exist. This paper will briefly discuss some of the work that has been done that might shed light on this area, present some preliminary data on anxiety in chronically ill girls, and discuss some of the ways that we might go about trying to understand this question better.

In my own socialization into the field of working with chronically ill children clinically, I gained the impression that the conventional wisdom was that girls were perhaps better able to cope with medical illnesses because of their easier acceptance of dependency and regression, and their lesser tendency to employ motoric activity in coping. However, the few studies that have come

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out recently that in one way or another relate to this question tend to contradict that idea. These studies look at a variety of situat ons, including hospitalized children, children with cancer facing procedures, and children with minor physical anomalies. They have in common only that they give us some clues about how girls respond to health-related stresses.

For example, Melamed and Siegel (1975) found higher levels of anxiety in the girls that they worked with while studying the reduction of anxiety in hospitalized children through filmed modeling. Similarly, in a fascinating study of behavioral reactions in children having bone marrow aspirations (Katz, Kellerman, and Siegel, 1980), girls in all their age groups showed higher levels of anxiety as rated from their behavior in the situation. They tended to express their anxiety by seeking comfort from those around them in comparison to the boys who tended to try to stall and delay the procedure.

Another interesting paper looked at behavioral differences between young boys and girls, ages 26 and 33 months, who had minor physical anomalies. This study, by Jacklin, Maccoby, and Halverson (1980), did not address anxiety or other indices of coping directly. However, they found that these minor anomalies were significantly correlated with higher activity levels in girls but not in boys. They do not try to explain this finding in terms of the possible differential effect of having such anomalies on boys and girls, nor do they claim to relate the higher levels of physical activity to intrapsychic states in the children. However, it would seem possible that indeed these higher levels of activity relate in some way to

anxiety in these young children, and hypothesizing further, one might wonder whether the feedback loop involving the socialization directed toward these children and the children's reaction to it was affected by the existence of the anomalies in girls, in whom parents may value physical appearance more highly than in boys.

I would like to add another piece of data to the obviously small existing pool, which despite being somewhat unimpressive statistically may be of interest because of the way it fits in with the little else we know. As part of a larger study of how chronically ill children ages 5 through 8 could be helped to cope with their conditions, we collected data on the Spielberger's State-Trait Anxiety Scale (Spielberger, C.D., Edwards, C.D., Montuori, J. & Lushene, R., 1970) for a group of 54 children, 26 of whom were healthy and 26 of whom had a variety of chronic illnesses including cystic fibrosis, spina bifida, hemophilia, asthma, cardiac problems, etc. Most of our analyses were done using the Trait scale from the Spielberger, since we found that children as young as 5 had difficulty with some of the vocabulary on the State scale but had little difficulty with the more behaviorally worded Trait questions. Not surprisingly, we found that the chronically ill children were significantly more anxious than the healthy children. It should be noted that all data were collected in the children's homes, so that the hospital setting was not a contaminant. The pattern that emerged when these data were analyzed by sex, however, was rather interesting. (Insert Figure 1 about here) Although the number of girls was small, in part probably because the hemophilia clinic was used as a source of subjects and also because in general

there were more boys than girls in many of the clinics, it does look in scanning the data as if girls account for most of this difference. According to the analysis of variance by sex and illness, the main effect for sex just misses significance, with p=.07. However, it would certainly seem to be worthwhile to pursue the question of sex differences in children's response to illness further and with greater sophistication. One would want to repeat such a study with larger N's, at several developmental stages, and while at the same time looking at mediating variables that could account for any differences that are found. For example, parent-child relationships, locus of control, and intraversion-extraversion are all dimensions that could conceivably mediate any such relationship. One of these dimensions which our study allowed us to look at in this way was fantasy capacity; while chronically ill and healthy children differed on this variable, there were no sex differences.

One of the variables that seems to have particular potential to help us understand this area better is body image and conceptions about the body, and I would like to take the rest of the time available to discuss this area. While there has been increasing amounts of research in this area quite recently (Whitt, 1982; Perrin and Garrity, 1981; Bibace and Walsh, 1979), not much of this data has looked at or dealt with sex differences.

One notable exception is some fascinating research done in 1975 by Anne Bernstein and Philip Cowan (Bernstein & Cowan, 1975), on "Children's Concepts of How People Get Babies." The bulk of their findings related to the interaction of cognitive development, from a Piagetian perspective, with children's progress in understanding the

process of reproduction. Like almost all research in the area of children's understanding of natural and social phenomena, they were able to trace a distinct developmental progression of understanding, from no comprehension through primitive spatially oriented explanations all the way to abstract, causal explanations. This progression paralleled the children's development of understanding of other physical and social phenomena, although they found a consistent developmental lag in children's understanding of the origin of babies as compared to the other phenomena studied.

Most relevant to the present discussion, however, is the finding that girls were somewhat more advanced than boys in their comprehension of reproduction, and that this pattern was highly significant for the 7-year-olds. (No differences were noted between the sexes on any other measures of cognitive development). While the authors admit that embarrassment could be a factor in explaining the finding, they also speculate that sex-role socialization and differential emotional development could play a role.

After this study appeared, the literature does not offer much in the way of clarification. However, it would seem that one way of going about understanding the phenomenon better would be to start at an even more basic question, and look at girls' and boys' conceptions of what is inside the human body.

That is what we have started to try to do a study on conceptions of the body and of illness in hospitalized and healthy children currently being carried out by Ken Whitt and others at North Carolina Memorial Hospital. In looking at the data simply in terms of number of body systems or body parts acknowledged, we found no sex differen-

ces in a sample of hospitalized children ages 5 through 15 and healthy children in grades kindergarten, 2, 4, and 6.

We then thought to look at differences in knowledge about the reproductive system, hypothesizing that since the elements of the reproductive system are so much less obvious in girls than in boys, this approach might yield interesting differences in how children perceived this rather mysterious and emotionally laden body system. To our surprise, we found that we could not really do such an analysis because acknowledging the reproductive system in a body drawing task was such a rare event in either sex. In a group of hospitalized children, 3 out of 68 boys and 3 out of 50 girls even mentioned any organs having to do with the process of reproduction. From the girls we had one penis, one "egg" and one vagina; from the boys, one who acknowledged the penis, one who acknowledged the penis and testes, and one "tube from the bladder". The three girls were ages 12, 13 and 16, while the boys were ages 9, 9 and 14; obviously with this small number, it would be premature to make much of this apparent age differential, but it would be a fascinating question to pursue. From the way these data were collected, it is not possible to determine whether this lack of acknowledgement of the reproductive system in either sex is primarily due to the low saliency of this system for children, embarrassment, repression, or some combination.

All examiners were female, and the drawing format was designed to allow children to indicate the existence of body parts without discussing them. However the data were collected individually, possibly increasing inhibition. In any case, though, there are obvious implications for health providers and health educators. When in a

group of 50 girls, including a number of girls approaching or post-puberty, only one spontaneously acknowledges the existence of the vagina and none acknowledge the uterus or ovaries, it is obvious that for most girls gaining familiarity, much less comfort, with their own bodies is a long way off. Among our healthy girls, the situation appeared to be only slightly better; of 19 girls ages 5 through 12, two 9 year olds knew about the existence of the womb. As can be seen from the next slides, children's understanding can be fairly elaborate if somewhat distorted, although most get along by totally ignoring the whole question (Insert Figures 2-5 about here). These observations are offered primarily in the hope that they will help to inspire further study of this area in much greater depth, focusing on the process by which children, especially girls, develop their concepts of reproduction and of their own bodies.

In summary, the question of how girls develop an understanding of their bodies in general and the process of reproduction in particular, and how this understanding relates to their health behaviors and their ability to cope with health problems, is wide open. However, the available data suggests that mastering this task is difficult for all children from both a cognitive and an emotional perspective. It further suggests that important sex differences exist that demand further study if we are to help our daughters and our sons cope with childhood health problems and to arrive at adolescence prepared to deal with their emerging sexuality.

Figure 1

Trait Anxiety Scale

Chronically Ill vs. Healthy Children

Chronically Ill = 40.5

Healthy = 36.4

p=.035

Trait Anxiety Scores, Sex x Health Status

	Boys	Girls
Chronically Ill	38.8 N=18	44.1 N=8
Healthy	35.4 N=14	37.5 N=12

F=3.45

P=.07

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Figure 2

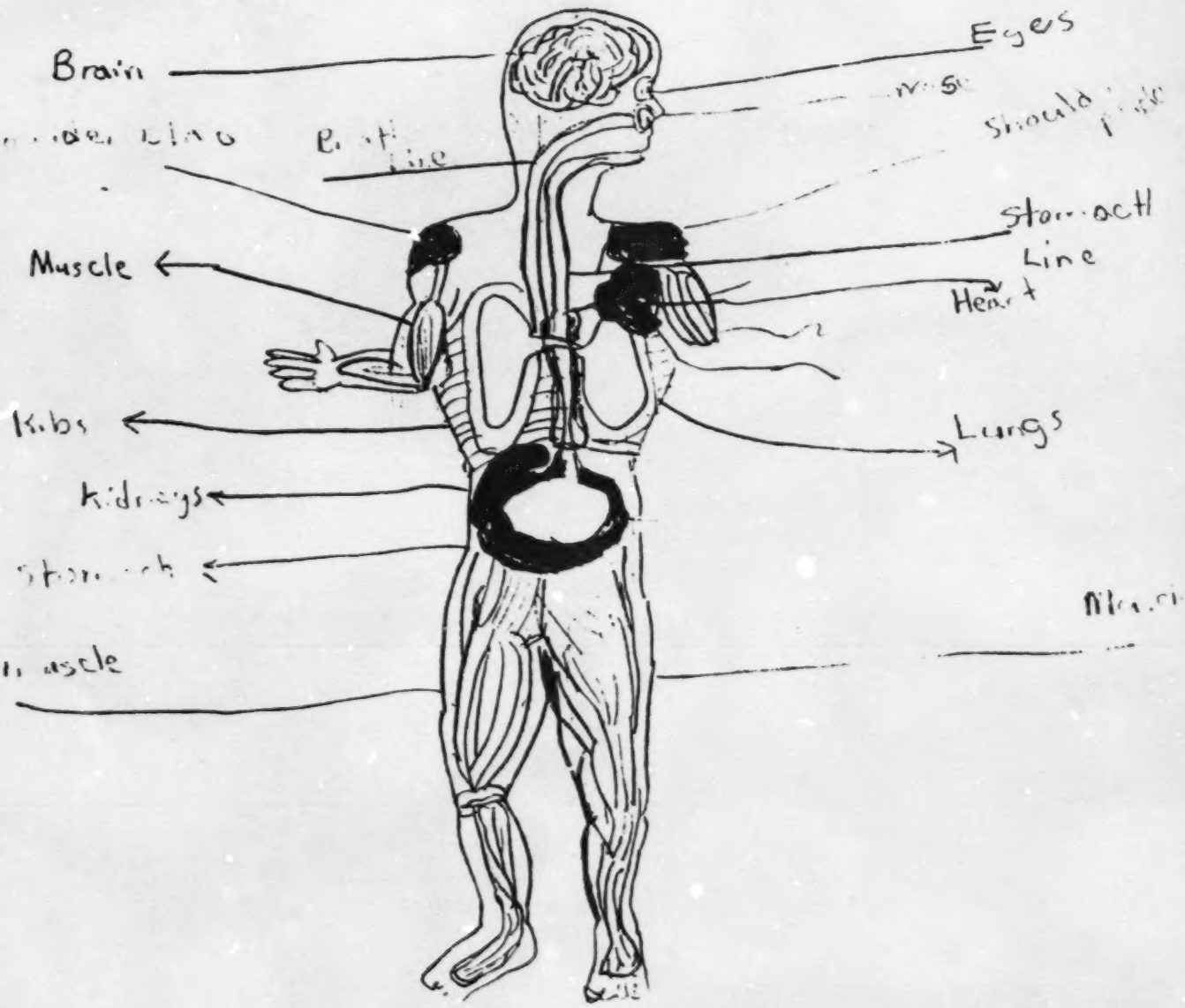


Figure 3

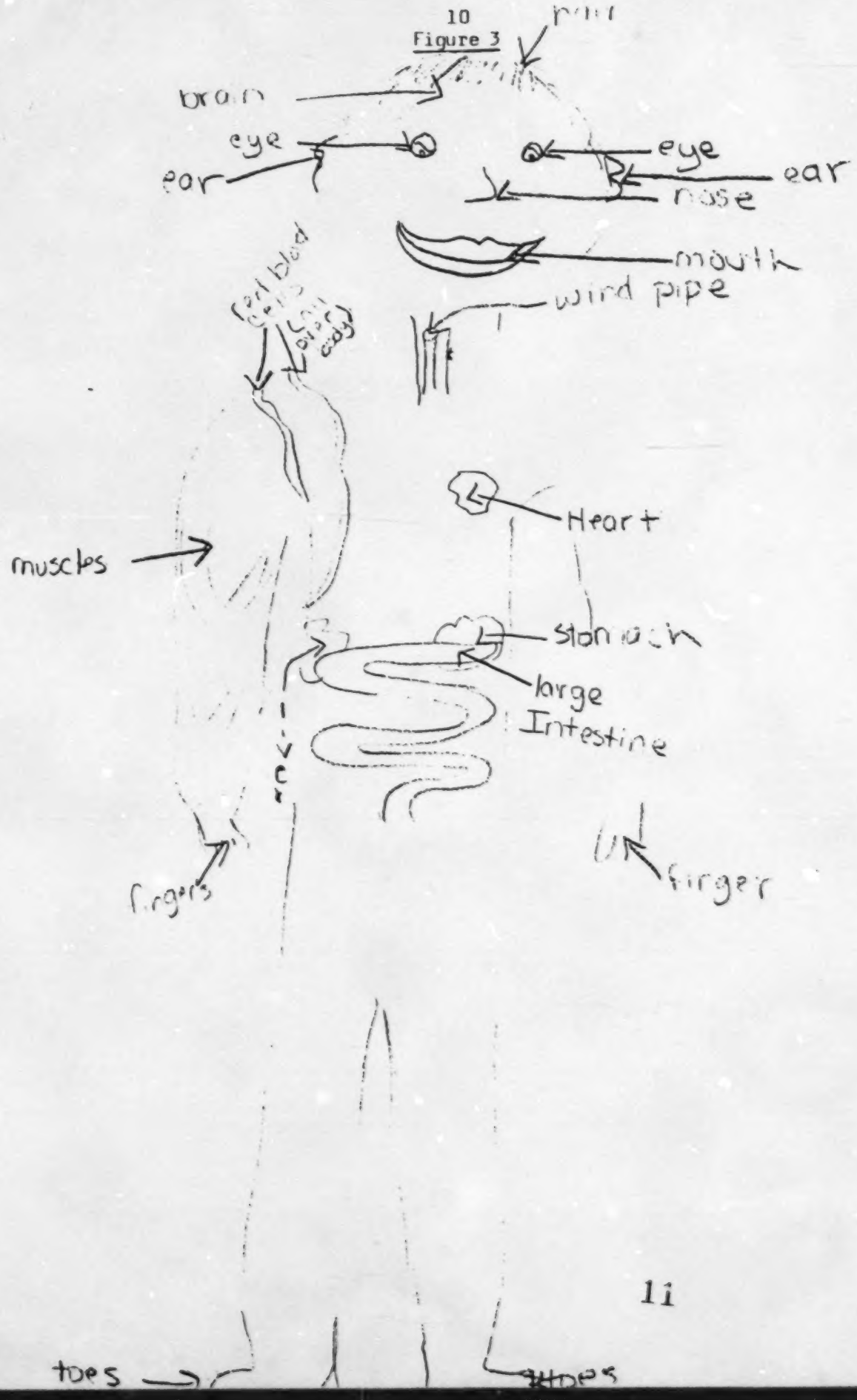
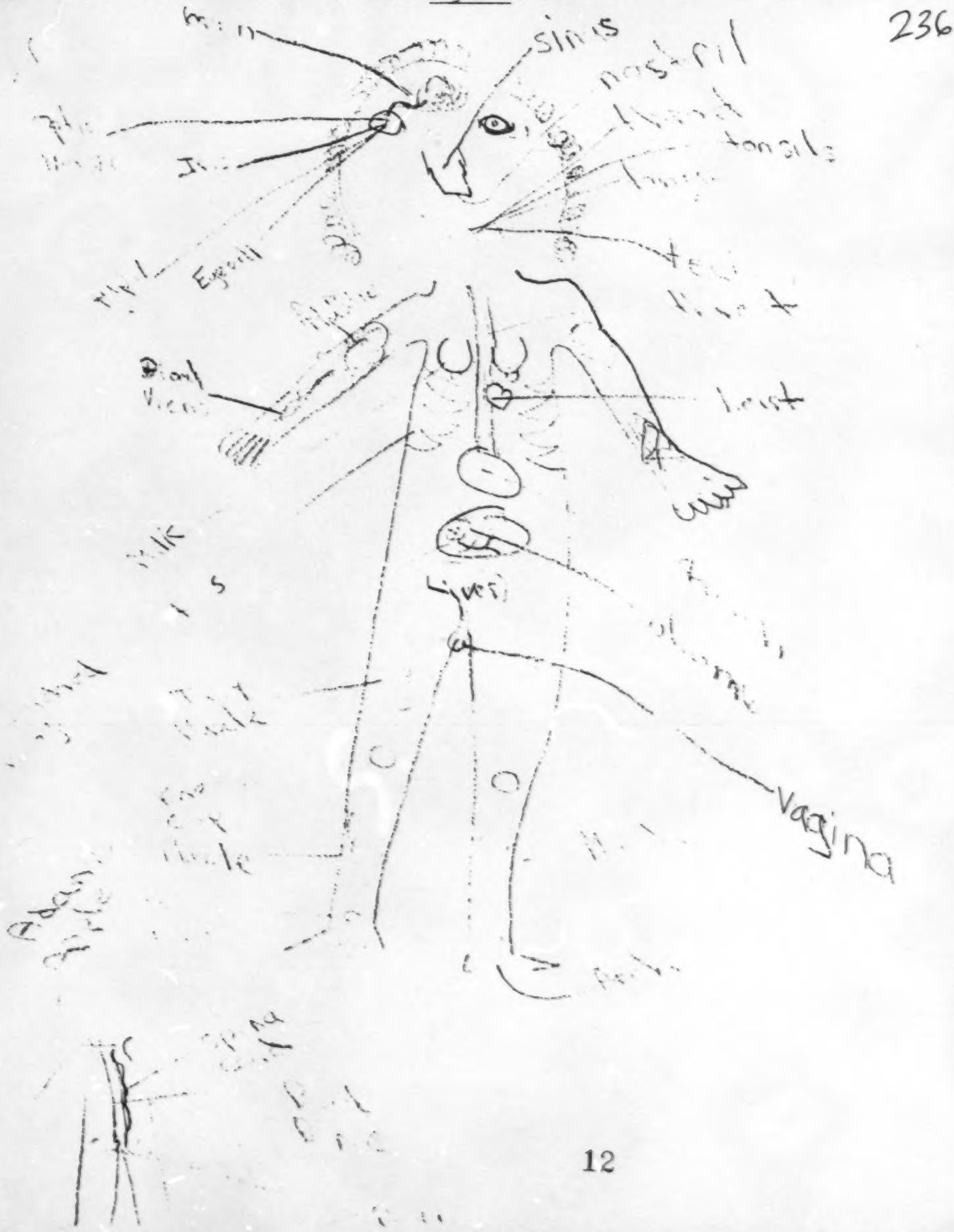

brain
eye
ear
eye
ear
nose
mouth
wind pipe
Heart
muscles
stomach
large
Intestine
fingers
finger
toes
toes

Figure 4.



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